

STATE OF VERMONT  
PUBLIC SERVICE BOARD

Docket No. 7328

Investigation into Vermont Marble Power     )  
Division of OMYA, Inc.'s 2007 Integrated     )  
Resource Plan                                     )

Order entered: 10/1/2008

**I. INTRODUCTION**

This Docket is an investigation of Vermont Marble Power Division of OMYA, Inc.'s ("Vermont Marble") Integrated Resource Plan ("IRP") that was filed on July 2, 2007. In this Proposal for Decision, I recommend that the Public Service Board ("Board") approve Vermont Marble's IRP, and approve a Stipulation between the Vermont Department of Public Service ("DPS") and Vermont Marble on Vermont Marble's IRP that was filed on June 13, 2008 ("Stipulation"). The Stipulation includes two conditions for Vermont Marble to address before filing its next IRP: (1) the implementation of a conservation voltage regulation program; and (2) the investigation into the possible elimination or reconfiguration of transmission lines.

**II. PROCEDURAL HISTORY**

On July 2, 2007, Vermont Marble filed its newest IRP. I am admitting Vermont Marble's IRP into evidence in this proceeding as Exhibit Vermont Marble-1.

On August 1, 2007, the Board opened an investigation into Vermont Marble's IRP and appointed David Farnsworth, Staff Attorney, as Hearing Officer.

On October 18, 2007, Mr. Farnsworth conducted a public hearing at the Proctor Junior-Senior High School in Proctor, Vermont. Four members of the public, all residents of Proctor, attended the public meeting. Some of the members of the public asked questions regarding the hydroelectric facilities owned by Vermont Marble and how Vermont Marble met its remaining power-system needs. Three of the members of the public asked questions regarding power outages and shortages. One member of the public asked a question concerning the IRP analysis.

On June 12, 2008, I issued a scheduling Order in which I informed the parties to this proceeding that the Board had appointed me Hearing Officer in this proceeding, replacing Mr. Farnsworth.

On June 13, 2008, the DPS and Vermont Marble filed a Stipulation recommending that the Board approve Vermont Marble's IRP. The Stipulation includes two conditions for Vermont Marble to address before filing its next IRP. These two conditions are the implementation of a conservation voltage regulation ("CVR") program and the investigation into the possible elimination or reconfiguration of transmission lines. I am admitting the DPS's and Vermont Marble's Stipulation into evidence in this proceeding as Exhibit Joint-1.

The Stipulation states that pages 5-23 through 5-25 of the 1994 Vermont Twenty-Year Electric Plan provide a description of CVR. I am admitting these pages into evidence as Exhibit Joint-2.<sup>1</sup>

On June 24, 2008, I sent the parties to this proceeding a memorandum with nine questions regarding Vermont Marble's IRP and the Stipulation. The memorandum also requested that the parties indicate whether they would have any objections to Vermont Marble's most recent Rule 4.900 report (filed with the Board on January 31, 2008) becoming part of the evidentiary record in this proceeding.

On July 28, 2008, Vermont Marble and the DPS filed joint responses to my questions. In their filing, Vermont Marble and the DPS stated that they had no objection to the most recent Rule 4.900 report becoming part of the evidentiary record in this proceeding. I am admitting the DPS and Vermont Marble's joint responses into evidence as Exhibit Joint-3 and Vermont Marble's Rule 4.900 report into evidence as Exhibit Vermont Marble-2.

Based on the evidence in this Docket, I hereby report the following findings and conclusions to the Board in accordance with 30 V.S.A. § 8.

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1. Any party wishing to object to the admission of these pages into evidence should do so in a motion for reconsideration of this Order.

### **III. FINDINGS**

#### **Vermont Marble's IRP**

1. Vermont Marble's IRP includes background information on Vermont Marble and the electric industry in the region. Exh. Vermont Marble-1 at 3-8.
2. Vermont Marble's IRP uses scenario planning to analyze its supply options. In this analysis, Vermont Marble modeled and evaluated seven resource portfolio strategies under three different scenarios representing possible electric power market price futures. The scenarios are characterized by a set of assumptions of the main drivers of electricity prices: fuel prices, regional electric demand, and environmental regulations. Exh. Vermont Marble-1 at 9-35.
3. Vermont Marble's IRP includes reference, high, and low 10-year energy and peak-demand forecasts. Vermont Marble selected either the reference, high or low forecast to use with each scenario, depending upon the conditions assumed as part of that scenario. Exh. Vermont Marble-1 at 10.
4. Vermont Marble's IRP includes reference, high, and low 25-year fuel price forecasts. Vermont Marble selected either the reference, high or low forecast to use with each scenario, depending upon the conditions assumed as part of that scenario. Exh. Vermont Marble-1 at 9-10.
5. Vermont Marble's IRP includes three future paths for the regulation of greenhouse-gas emissions, a minimal, moderate, and aggressive carbon approach. Vermont Marble selected either the minimal, moderate or aggressive forecast to use with each scenario, depending upon the conditions assumed as part of that scenario. Exh. Vermont Marble-1 at 11-13.
6. Vermont Marble's IRP analysis included an assessment of Vermont Marble's incremental resource need over the planning period, based on analysis of expected loads and characteristics of its existing supply and demand-side resources. Vermont Marble's affiliated industrial load accounts for approximately 95 percent of the total Vermont Marble load. Exh. Vermont Marble-1 at 15-16.
7. Demand-side resources are acquired through the work of the Energy Efficiency Utility for Vermont Marble's retail load. Vermont Marble has worked with its affiliated industrial operations to promote ways to reduce energy use and peak demands. Exh. Vermont Marble-1 at 22-23.

8. Vermont Marble used multi-attribute trade-off analysis to evaluate the portfolio strategies. The attributes considered by Vermont Marble over the 20-year planning period were: portfolio cost; short-term volatility; long-term and multi-year hedge level; maximum and average financial commitment; maximum market exposure; and carbon dioxide emissions. The analysis also examined the impact of alternative Vermont Marble load-growth paths and stress-tested the portfolios for scenario changes and short-term market fluctuations. Exh. Vermont Marble-1 at 28-37.

9. Vermont Marble's IRP includes information regarding all the items it was required to address in this IRP under the terms of the stipulation it reached with the DPS regarding Vermont Marble's last IRP. Exh. Vermont Marble-1 at 9-38.

10. In the Stipulation for Vermont Marble's last IRP, Vermont Marble agreed to incorporate a range of values for present and future Renewable Energy Credits ("RECs") into its decision-making process. In its current IRP, Vermont Marble assumed that all RECs associated with renewable resources would be retained in order for Vermont Marble to be able to recognize the projects as renewable in its portfolio. Vermont Marble conducted an alternative analysis that assumed the sale of all RECs. The alternative analysis indicated that the sale of RECs could enhance the value of IRP portfolios with renewable resources. Exh. Joint-3 at 3 and Exhibit A.

11. Vermont Marble's IRP discusses the current condition of Vermont Marble's transmission and distribution system, and describes Vermont Marble's transmission and distribution planning activities. Exh. Vermont Marble at 39-45.

12. Vermont Marble has hired an engineering firm to conduct a feasibility study to upgrade the electrical and mechanical components of its Proctor Distribution Substation, including examining the reliability of the system. Vermont Marble intends to continue its investigation of the upgrade of the distribution substation by preparing a more detailed engineering design and firmer cost estimates. Exh. Vermont Marble-2 at 2; exh. Joint-3 at 4-5.

13. Vermont Marble's vegetative-management plan includes surveying the systems at a regular interval and during maintenance events. The surveys determine the areas of need for trimming, and trimming is then scheduled to be performed. Exh. Joint-2 at 4.

14. Vermont Marble's IRP includes an action plan for implementing the conclusions identified through its IRP analysis. Exh. Vermont Marble-1 at 38.

15. Vermont Marble's IRP aims to determine a portfolio best suited to meet Vermont Marble's needs, as defined therein. It includes an analysis of several possible approaches to meeting those needs, and provides the basis for a preferred alternative and a direction for Vermont Marble to pursue. The action plan takes the recommendations emerging from the analysis and provides specific steps to aid Vermont Marble in its day-to-day activities. Exh. Vermont Marble-1 at 37-38.

#### Stipulation

16. The Department and Vermont Marble have reached an agreement regarding the IRP. They agree that the Board's final Order in this docket may incorporate the conditions and agreements contained in their Stipulation. Exh. Joint-1 at 1.

17. The Parties agree that Vermont Marble's IRP describes a reasonable decision-making process for meeting the public's need for energy services, after safety concerns are addressed, at the lowest present-value life-cycle cost, including environmental and economic costs, through a strategy combining investments and expenditures on energy supply, transmission and distribution capacity, transmission and distribution efficiency, and comprehensive energy efficiency programs required of Vermont Marble. Exh. Joint-1 at 1.

18. The Stipulation does not imply approval of any particular decisions, analytic methods, or tools, and does not constitute a prudence determination. It extends only to the decision-making processes described in the IRP. The Stipulation provides that Vermont Marble has a continuing duty to monitor key uncertainties and accuracy of assumptions and data in the IRP, as well as to continue to reevaluate the merits of its decision-making processes and the merits of its decisions. Exh. Joint-1 at 1-2.

19. The Stipulation provides that, before filing its next IRP, Vermont Marble will work with the DPS to investigate the feasibility of performing CVR on the Vermont Marble distribution system, and, if determined to be feasible and cost-effective, to implement CVR where appropriate. Exh. Joint-1 at 2-3.

20. Under the terms of the Stipulation, by the date of three months after the Board's approval of the IRP, Vermont Marble will submit to the DPS a plan for investigating the feasibility of CVR. The plan will include a schedule for completing the investigation and for performing CVR on a trial basis on those circuits determined to be feasible without capital expenditure. Exh. Joint-1 at 3.

21. The Stipulation provides that, in the event capital expenditures will be required to implement CVR as opposed to being accomplished simply by adjustment of existing voltage regulators, Vermont Marble and the DPS will discuss the schedule for evaluation of the proposed capital expenditure and for ordering and installing equipment if CVR is indicated to be cost-effective. According to the Stipulation, the plan to investigate the feasibility of CVR must be approved by the DPS. Exh. Joint-1 at 3.

22. The Stipulation provides that, before filing its next IRP, Vermont Marble will continue to investigate the possible elimination or reconfiguration of all or part of its 46 kV lines to Danbury Imperial Quarry and its Beldens and Huntington Falls hydroelectric facilities and report the results to the DPS in its next IRP, or sooner if possible. Exh. Joint-1 at 3.

23. The Danby Imperial Quarry, an approximately 500 kW customer, is fed by means of a 20-mile 46 kV transmission line, known as the "Danby" line. The investigation agreed to in the Stipulation will focus on lowering the cost of serving this customer by exploring alternate ways of feeding the load, including the possibility of feeding the Quarry from Central Vermont Public Service Corporation's distribution system, as well as some on-site generation possibilities. Exh. Joint-3 at 5.

24. The "North" line is a 46 kV line that runs from Florence to Middlebury, essentially in parallel with the VELCO transmission system. This line connects to Vermont Marble's Beldens and Huntington Falls hydroelectric facilities. A more efficient configuration may include tying the Vermont Marble generation in the Middlebury area into the VELCO transmission system in Middlebury, which then ties into the Vermont Marble system in Florence. The focus of the investigation agreed to in the Stipulation will be on potential decreases in the cost of service and improved aesthetics, as well as other impacts such as possible decreased reliability due to one less tie point with the elimination of the North line. Exh. Joint-3 at 5.

25. The Stipulation provides that, in its next IRP, Vermont Marble will provide documentation and other information supporting the assumptions utilized regarding the costs and cost structure for alternative power supplies. For example, if the cost of power from merchant plants is assumed to be the same as power from a Vermont Marble-owned plant, Vermont Marble will provide support for the reasonableness of that assumption including the information available to Vermont Marble upon which it relies for such assumption, such as case studies, market data, market reports, bids, quotes, term sheets, or other documentation and analysis. Exh. Joint-1 at 3.

26. The Stipulation provides that Vermont Marble will submit the filings required by paragraphs 6 through 8 of the Stipulation (Findings 19 to 25, above) simultaneously to the Department and the Board. The Department will have the opportunity to review and comment on all such filings and will submit any comments it may have to Vermont Marble at the same time it files such comments with the Board. The Board will retain jurisdiction to resolve any disputes that arise regarding such filings. Exh. Joint-1 at 3-4.

### CVR

27. A CVR program is an energy efficiency program, applied to an electric utility's distribution system, involving measures and operating strategies designed to provide electricity service at the lowest practicable voltage level, and in a cost-effective manner, while meeting all applicable voltage standards. Exh. Joint-2 at 1.

28. Field studies have shown that, in general, a one percent reduction in the voltage delivered to customers results in a one percent reduction in energy consumption. Exh. Joint-2 at 1.

29. The first phase of CVR utilizes line drop compensation ("LDC"). LDC is a control device, connected to tap-changing transformers and voltage regulators, that measures feeder load current and computes the resultant voltage drop. The value of the voltage drop is then used by the tap changer or regulator to raise or lower the feeder voltage. Exh. Joint-2 at 1-2.

30. In the second phase of CVR, capital improvements are made on a feeder in order to reduce the overall voltage drop along the feeder. Exh. Joint-2 at 2.

#### **IV. DISCUSSION**

30 V.S.A. § 218(c) sets out the statutory standard that Vermont Marble's IRP must meet. Section 218(c) describes a "least-cost integrated plan" as:

a plan for meeting the public's need for energy services, after safety concerns are addressed, at the lowest possible present value life cycle cost, including environmental and economic costs, through a strategy combining investments and expenditures on energy supply, transmission and distribution efficiency, and comprehensive energy efficiency programs.<sup>2</sup>

The statute provides that the Board may approve a company's least-cost plan if it complies with the requirements of this definition. However, the statute does not specify what Board approval of an IRP means.

In the Stipulation, the DPS and Vermont Marble have agreed that approval would encompass the decision-making processes included in the IRP, but it would not include the specific decision-making tools, analytical methods, or outcomes described in the IRP. This is consistent with previous Board decisions regarding the scope of approval.<sup>3</sup> Accordingly, I recommend that the Board determine that approval of Vermont Marble's current IRP would extend to the decision-making processes included in the IRP, but not the specific decision-making tools, analytical methods, or outcomes described in the IRP.

Vermont Marble's IRP adequately addresses the supply-side and the transmission-and-distribution components of least-cost integrated resource planning. Vermont Marble's IRP analysis included the development of alternative resource portfolios that are representative of generation technologies and contractual arrangements that are representative of the range of resource strategies that Vermont Marble reasonably might pursue.<sup>4</sup> I am persuaded that Vermont Marble's IRP demonstrates that Vermont Marble is considering a broad range of resource options to meet its customers' future needs for electricity services at least cost.

After reviewing Vermont Marble's IRP, the Stipulation, and the other evidence in the record, I find that, with the Stipulation, Vermont Marble's IRP meets the requirements of

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2. 30 V.S.A. § 218(c)(a)(1)

3. See, e.g., Docket 6854, Order of 3/9/04, generally.

4. Exh. Vermont Marble-1 at 23.



30 V.S.A. § 218(c). Therefore, I recommend that the Board approve Vermont Marble's IRP and the Stipulation. I discuss two of the Stipulation's provisions further below.

#### CVR Program

Vermont Marble has agreed to investigate the feasibility of performing a CVR program, and to implement CVR where appropriate. Vermont Marble has further agreed to submit to the Board and the DPS a plan for investigating the feasibility of CVR, within three months from the date of the Board's approval of the IRP. The plan will include a schedule for completing the investigation and for performing CVR on a trial basis on those circuits determined to be feasible without capital expenditure. In the event capital expenditures will be required to implement CVR, Vermont Marble has agreed to work with the DPS to develop a schedule and plan for evaluation of the proposed capital expenditures and for ordering and installing equipment if CVR is indicated to be cost-effective.

Electric utilities around the country have implemented CVR programs. These programs have resulted in significant amounts of highly cost-effective energy savings.<sup>5</sup> I am persuaded that the approach agreed to by Vermont Marble and the DPS in the Stipulation regarding the implementation of a CVR program in Vermont Marble's distribution system is reasonable and should be approved.

#### Transmission Lines

Vermont Marble has agreed to investigate the possible elimination or reconfiguration of all or part of its 46 kV lines to Danbury Imperial Quarry and its Beldens and Huntington Falls hydroelectric facilities. Vermont Marble has further agreed to submit to the Board and DPS a report on the results of this investigation in its next IRP, or sooner if possible. The focus of the investigation will be to determine whether the line to Danby Imperial Quarry and the North line from Florence to Middlebury can be eliminated by feeding into a nearby existing distribution system or using on-site generation.

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5. Exh. Joint-2 at 1.

The elimination or reconfiguration of the Danby and North lines could result in decreased cost of service and improved aesthetics. However, different configurations may result in other impacts, including a possible decrease in reliability. An investigation into these transmission lines would include an examination of these issues. I am persuaded that the approach set forth in the Stipulation for addressing this issue is reasonable and should be approved.

#### **V. CONCLUSION**

In this Proposal for Decision, I recommend that the Board approve Vermont Marble's IRP as filed on June 29, 2007. I further recommend that the Board approve the June 13, 2008, Stipulation between Vermont Marble and the DPS. The Stipulation includes two conditions for Vermont Marble to address before filing its next IRP: (1) the implementation of a Conservation Voltage Reduction program; and (2) the investigation into the possible elimination or reconfiguration of transmission lines.

In the Stipulation, the parties waived their right, pursuant to 3 V.S.A. § 811, to comment on a proposal for decision, if I recommended acceptance of the Stipulation.<sup>6</sup> Since I am recommending acceptance of the Stipulation in its entirety, this Proposal for Decision has not been served on all parties to this proceeding in accordance with 3 V.S.A. § 811.

Dated at Montpelier, Vermont, this 30<sup>th</sup> day of September, 2008.

s/Ann Bishop  
Ann Bishop  
Hearing Officer

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6. Exh. Joint-1 at 4.

## **VI. BOARD DISCUSSION**

Historically, the Board has required utilities to file IRPs every three years. The Stipulation did not address the filing date for the next Vermont Marble IRP. Consistent with past practice, we determine that Vermont Marble should be required to file its next IRP on or before June 30, 2010, the three-year anniversary of the filing of Vermont Marble's IRP in this Docket.

## **VII. ORDER**

IT IS HEREBY ORDERED, ADJUDGED AND DECREED by the Public Service Board of the State of Vermont that:

1. The findings and conclusions of the Hearing Officer are adopted.
2. The Integrated Resource Plan filed by Vermont Marble Power Division of OMYA, Inc. ("Vermont Marble") on July 2, 2007, is approved.
3. The Stipulation between Vermont Marble and the Vermont Department of Public Service ("DPS"), filed June 13, 2008, is approved.
4. On or before three months after the date of this Order, Vermont Marble shall file with the Board and the DPS a plan for investigating the feasibility of conservation voltage regulation ("CVR") and a schedule for performing CVR on a trial basis on those circuits determined to be feasible without capital expenditure.
5. Following the submittal of the plan for investigating the feasibility of CVR, Vermont Marble shall work with the DPS to develop a schedule and plan for evaluation of any CVR requiring capital expenditure that is indicated to be cost-effective.
6. Before filing its next IRP, Vermont Marble shall perform an investigation of the elimination or configuration of the Danby and North transmission lines and submit to the Board and the DPS a report on the results of this investigation.
7. In its next IRP, Vermont Marble shall provide documentation and other information supporting the assumptions utilized regarding the costs and cost structure for alternative power supplies.
8. Vermont Marble shall file its next integrated resource plan on or before June 30, 2010.

Dated at Montpelier, Vermont, this 1<sup>st</sup> day of October, 2008.

<u>s/James Volz</u>	)	
	)	PUBLIC SERVICE
	)	
<u>s/David C. Coen</u>	)	BOARD
	)	
	)	OF VERMONT
<u>s/John D. Burke</u>	)	

OFFICE OF THE CLERK

FILED: October 1, 2008

ATTEST: s/Judith C. Whitney

Deputy Clerk of the Board

*NOTICE TO READERS: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Board (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: psb.clerk@state.vt.us)*

*Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Board within thirty days. Appeal will not stay the effect of this Order, absent further Order by this Board or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Board within ten days of the date of this decision and order.*